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PTO/SB/05 (4/98)

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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No. 20 WILSON / BOARD

First Inventor or Application Identifier: KEN WILSON

Title: EXTRUDED METAL SPORTS BOARD

Express Mail Label No.



APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. Specification [Total Pages: 9]
(preferred arrangement set forth below)
 - Descriptive title of the Invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (*if filed*)
 - Detailed Description
 - Claim(s)
3. Drawing(s) (35 U.S.C. 113) [Total Sheets 2]
4. Oath or Declaration [Total Pages 3]
 - a. Newly executed (original or copy)
 - b. Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 16 completed)
 - i. **DELETION OF INVENTOR(S)**
 Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

*NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

5. Microfiche Computer Program (*Appendix*)
6. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
 - a. Computer Readable Copy
 - b. Paper Copy (identical to computer copy)
 - c. Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. Assignment Papers (cover sheet & document(s))
8. 37 C.F.R. § 3.73(b) Statement Power of
(when there is an assignee) Attorney
9. English Translation Document (*if applicable*)
10. Information Disclosure Copies of IDS
Statement (IDS)/PTO-1449 Citations
11. Preliminary Amendment
12. Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
13. Small Entity Statement filed in prior application.
Statement(s) Status still proper and desired
(PTO/SB/09-12)
14. Certified Copy of Priority Document(s)
(if foreign priority is claimed)
15. Other: _____

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

Continuation Divisional Continuation-in-part (CIP) of prior application No: _____

Prior application information: Examiner _____ Group / Art Unit: _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

Customer Number or Bar Code Label

(Insert Customer No. or Attach bar code label here)

or Correspondence address below

Name

CHARLES C. LOGAN II

Address

8282 UNIVERSITY AVENUE

City

TUMESA

State

CA

Zip Code

91941

Country

USA

Telephone

619/463-1675

Fax

619/463-1665

Name (Print/Type) CHARLES C. LOGAN II

Registration No. (Attorney/Agent)

25256

Signature

Date

12/11/98

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INVENTORS

KEN WILSON
12925 BROOKPRINTER PLACE, # 200
POWAY, CALIFORNIA 92064

THE INVENTOR IS A CITIZEN OF THE UNITED STATES OF AMERICA

CHRISTOPHER TAYLOR
1371 RUBENSTEIN AVENUE
CARDIFF, CALIFORNIA 92007

THE INVENTOR IS A CITIZEN OF THE UNITED STATES OF AMERICA

TITLE OF THE INVENTION

EXTRUDED METAL SPORTS BOARD

BACKGROUND OF THE INVENTION

The invention relates to sport boards that are ridden by a person standing upon them, and more specifically to one whose basic structure is an elongated extruded metal board. Some examples of sport boards are skateboards, snowboards and wakeboards.

The earliest skateboards were made of a plain flat piece of wood. Later models were made of other materials and had improved structure. The Gaber U.S. patent 4,161,326 discloses an improved skateboard having a replaceable arc-tail with a wear surface and further having wheel wells.

The Stevenson U.S. patent 4,182,520 discloses a skateboard structure having a central platform formed of a top piece and a bottom piece. The two pieces may be shaped to define an inner surface of cellular configuration so that when the two pieces are fitted together they define an internal reinforcing honeycomb-like core. The Stevenson U.S. patent 4,337,963 discloses the top and bottom pieces being formed of appropriate injection molded plastic material, such as polypropylene, polyethylene, polycarbonate, Plexiglass, or other plastic material which is susceptible to injection molding; or aluminum casting or compression molded fiberglass; or any other material which may be molded or cast.

The Meredith U.S. patent 4,458,907 discloses a skateboard having a front member and a rear member and structure for allowing the length of the skateboard to be extended or

retracted.

The Scheurer et al U.S. patent 4,897,063 discloses a reaction injection molded recreation board with spaced rectangular reinforcing rods. The rods are rectangular in cross section and are disposed between upper and lower surfaces of the board.

The Smisek U.S. patent 5,267,734 discloses a hollow elongated board having openings, formed in the underside of the board, adapted to receive standard skateboard wheels. The skateboard further employs wheel ramps on opposite sides of each wheel to provide a smooth under surface to aid in negotiation of large obstacles such as curbs, stairs, etc. and to allow the skateboard to glide over smaller objects.

In the late 1970's, an American skateboard manufacturer made his boards of aluminum plate material. These boards proved to be too heavy and too expensive and were not very popular. The edges of the skateboard, after heavy use, became razor blade sharp and were extremely dangerous.

The inventors recognized the problems of the prior art aluminum metal skateboards when they attempted to make the skateboards out of flat sheet aluminum. The flat sheet metal bent in the middle and could not endure hard riding. It was then decided to go with a thicker piece of aluminum and cutout sections of the metal to make it lighter while still maintaining sufficient structural support. The problem of razor sharp edges still occurred with the metal board and the metal board was still

too heavy. Additionally, it also bent or buckled in the middle of the board when it was subjected to hard use.

It is an object of the invention to provide a novel metal board that is lightweight yet capable of withstanding the hard use of jumping actions by the rider and not bend or break.

It is another object of the invention to provide an extruded metal board that could be used as a sport board that is ridden by a person standing upon it.

It is also an object of the invention to provide a novel metal board whose left and right edges have extruded hollow rails that are not subject to becoming razor blade sharp.

It is an additional object of the invention to provide a novel metal board that could be used in multiple sports such as skateboarding, wakeboarding and snowboarding.

It is a further object of the invention to provide a novel metal board that is economical to manufacture and market.

SUMMARY OF THE INVENTION

The novel sports board has been designed to be formed of extruded metal thereby allowing it to be formed as thin as possible by incorporating extruded hollow rails along its left and right edges and a hollow keel along its bottom surface. The strength of the respective hollow rails and hollow keel allow the sport board to be ridden hard without worrying about the board bending or breaking. A preferred embodiment of the metal board is made of 6000 series T-6 aircraft aluminum. Different aluminum

or titanium may be used depending upon the physical properties desired such as tensile strength, yield strength, weight, etc.

The use of the sports board as a skate board subjects it to tremendous forces when the rider is performing jumps. For instance, a 200 pound rider that jumps from a height of 3 feet and absorbs the impact by bending his knees 3.6 inches subjects the skateboard to a force of 2000 pounds. A jump from a height of 6 feet produces a force of 4000 lbs. These forces will break wooden and flat plate metal skateboards.

Static tests for different aluminum boards for skateboards produced the following data:

For a flat plate board .100 inch thick (without rails)

<u>Weight</u>	<u>Deflection</u>
200 lbs.	1.07 inch
250 lbs.	1.34 inch

For a flat plate board .1875 inch thick (without rails)

<u>Weight</u>	<u>Deflection</u>
200 lbs.	.162 inch
250 lbs.	.203 inch

For a board according to the inventors design with a plate .100 inches thick and with the two rails .500 inches high and .625 inches wide with walls having a thickness of .0625 inches.

<u>Weight</u>	<u>Definition</u>
200 lbs.	.048 inches
250 lbs.	.060 inches
1000 lbs.	.240 inches

The weight of the hollow rail design above was well below 2.6 pounds. The weight of the board is thus lighter than either a wooden board or an aluminum plate board and much stronger than either of them.

The method of manufacturing the novel sports board comprises the first step of extruding an elongated metal board with a longitudinally extending hollow keel formed on its bottom surface and a hollow left rail and a hollow right rail formed on its bottom surface adjacent the left and right edges. Typically the board then has its front and rear tips bent upwardly at a predetermined angle. This metal board is then subjected to a heat treating process to reduce stresses formed in the metal board during the extrusion and bending operations. This basic structure can then be utilized as the basic component for sport boards such as skateboards, wakeboards and snowboards.

DESCRIPTION OF THE DRAWINGS

Figure 1 is a front perspective view of the novel extruded metal board utilized as a skateboard;

Figure 2 is a cross sectional view taken along lines 2-2 of Figure 1;

Figure 3 is a bottom plan view of one of the plastic end guards for the extruded metal board;

Figure 4 is a partial bottom plan view of one end of the extruded metal board;

Figure 5 is a cross sectional view taken along lines 5-5 of Figure 4; and

Figure 6 is a side elevation view taken along lines 6-6 of Figure 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The novel extruded metal board will now be described by referring to Figures 1-6 of the drawings. The sport board designated numeral 10 is a skateboard and its major component is elongated extruded metal board 12.

Extruded metal board 12 has a length L1 in the range of 24-60 inches and a width W1 in the range of 5-12 inches. Its surface has a concave transverse contour. An extruded hollow keel 14 is substantially rectangular in shape and it has a height H1 in the range of .200-.800 inches and a width W2 in the range of .500-3.000 inches. An extruded hollow left rail 16 and an extruded hollow right rail 18 are formed on the bottom surface of the metal board 12. The inner upright walls 17 and 19 of the respective rails are inclined to allow clearance space for the wheels when the rider weights the metal board heavily to a particular side edge. The rails have a height H2 in the range of .200-.800 inches and a width W3 in the range of .300-1.00 inches. The thickness T1 of the metal board is in the range of .050-.250 inches.

A pair of skateboard trucks 24 are secured to the bottom surface of metal board 12. Each truck has a pair of wheels 25.

The front and rear ends of metal board 12 have upwardly inclined tip portions 26 and 27. The front and rear ends of the respective tip portions have an arcuate configuration. End guards 28 are secured to the respective tip portions.

Figure 4 is a partial bottom plan view of one end of the metal board 12 and its other end is substantially identical. Figure 5 is a cross sectional view taken along lines 5-5 of Figure 4 and Figure 6 is a side elevation view taken along lines 6-6 of Figure 4 of the front end of the metal board.

What is claimed is:

1. A sports board that is ridden by a person standing upon it comprising:

an elongated metal board having a length L_1 in the range of 24-60 inches and a width W_1 in the range of 5-12 inches;

said metal board having a front end, a rear end, a top surface, a bottom surface, a left edge and a right edge; and

an hollow keel is formed on said bottom surface of said metal board and it extends from said front end to said rear end; said keel having a height H_1 and a width W_2 and W_2 is at least as great as H_1 .

2. A sports board as recited in claim 1 wherein said hollow keel has a rectangular configuration.

3. A sports board as recited in claim 1 further comprising an hollow left rail and an hollow right rail formed on said bottom surface adjacent said respective left and right edges and said hollow rails extend the length of said metal board.

4. A sports board as recited in claim 3 wherein said metal is aluminum.

5. A sports board as recited in claim 3 wherein said metal board has an arcuate shaped front end and an arcuate shaped rear end.

6. A sports board as recited in claim 5 wherein plastic end guards are secured to said front and rear ends of said metal board.

7. A sports board as recited in claim 1 wherein said top surface of said metal board has a concave transverse contour.

8. A sports board as recited in claim 1 wherein said metal board has a bent-up front tip portion and a bent-up rear tip portion.

9. A sports board as recited in claim 1 further comprising front and rear skateboard trucks secured to said bottom surface of said metal board.

10. A method of manufacturing a sport board comprising the following steps:

a) taking an elongated metal board; said metal board having a front end and a rear end.

b) machining said front and rear ends of said metal board into a predetermined shape;

c) bending said front and rear ends of said metal board to form a bent-up front tip portion and a bent-up rear tip portion; and

d) heat treating said metal board.

ABSTRACT OF THE DISCLOSURE

A sports board that is ridden by a person standing upon it. The board is formed of extruded metal and it has an extruded hollow keel formed in its bottom surface that extends from its front end to its rear end. The height of the keel is much smaller than its width and it has a substantially rectangular cross-sectional configuration. An extruded hollow left rail and an extruded hollow right rail are formed on the bottom surface of the metal board adjacent its respective left and right edges and they extend the length of the metal board. Plastic end guards are secured to the front and rear ends of the metal board. In one embodiment of the sports board, front and rear skateboard trucks are secured to the bottom surface of the metal board.

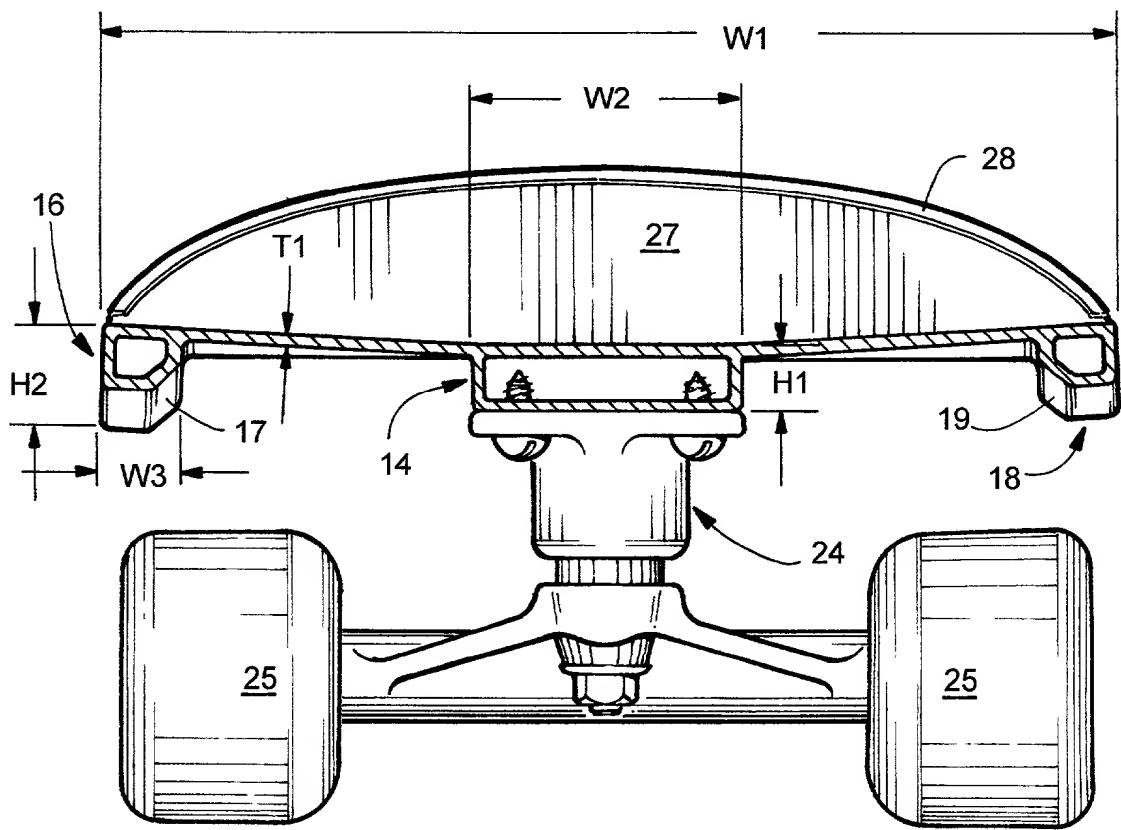
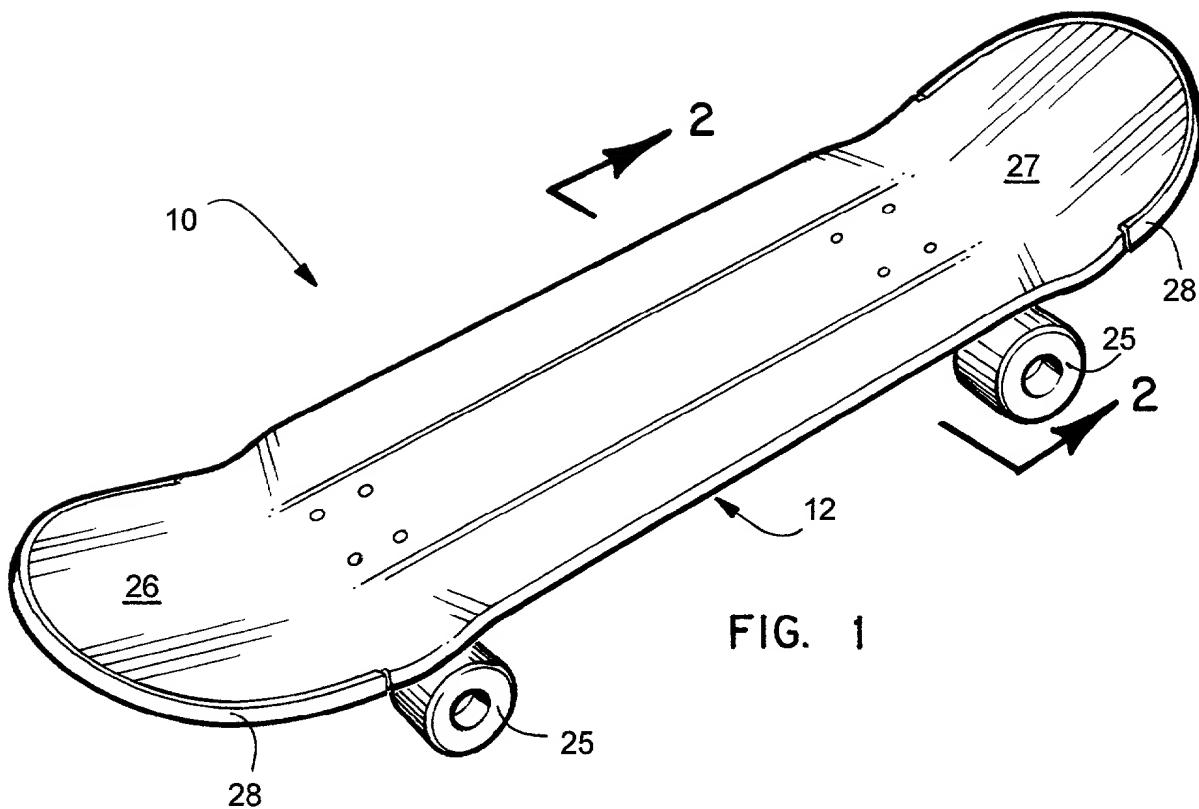
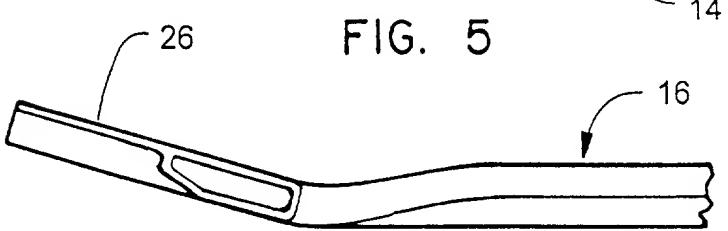
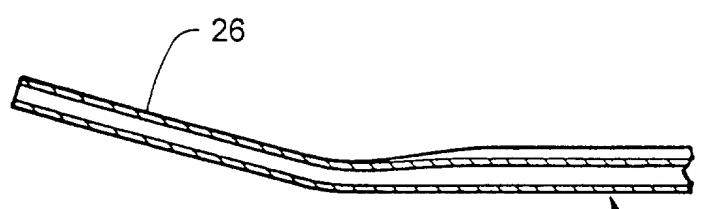
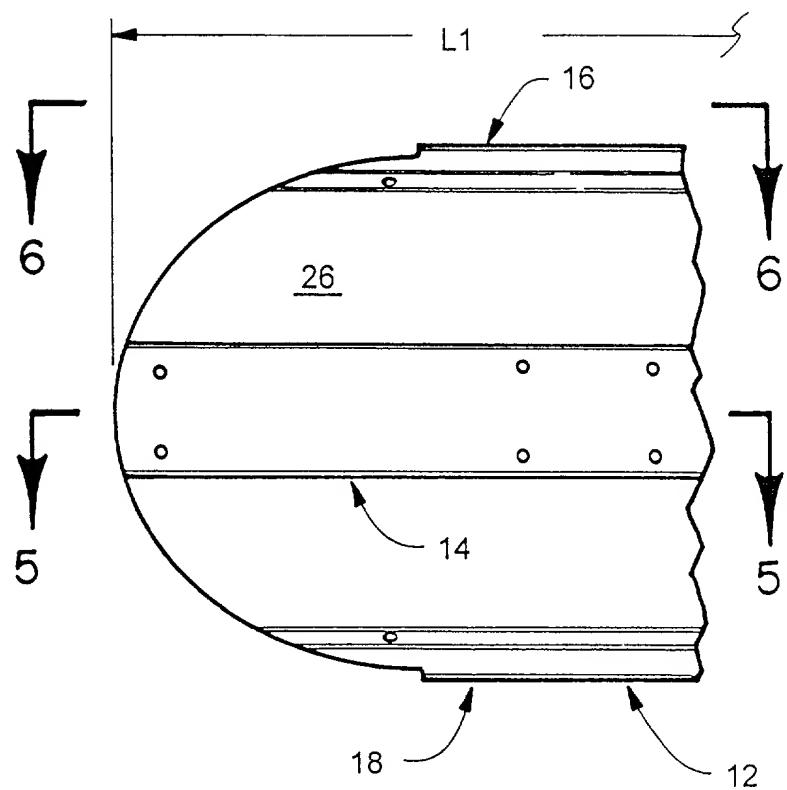
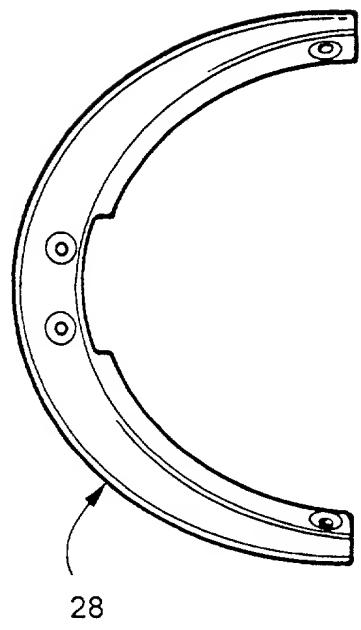


FIG. 2



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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

Declaration OR Declaration
Submitted Submitted after
with Initial Filing Initial Filing

Attorney Docket Number	
First Named Inventor	KEN WILSON et al
<i>COMPLETE IF KNOWN</i>	
Application Number	
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

EXTRUDED METAL SPORTS BOARD

the specification of which

(Title of the invention)

 is attached hereto
OR was filed on (MM/DD/YYYY) as United States Application Number or PCT InternationalApplication Number and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code §119 (a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365 (a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

 Additional foreign application numbers are listed on a supplemental priority sheet attached hereto.

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.
		<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

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DECLARATION

Page 2

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s), or §365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

Additional U.S. or PCT International application numbers are listed on a supplemental priority sheet attached hereto.

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Firm Name CHARLES C. LOGAN II Customer or label _____
 OR
 List attorney(s) and/or agent(s) name and registration number below:

Name	Registration Number	Name	Registration Number
CHARLES C. LOGAN II	25256		

Additional attorney(s) and/or agent(s) named on a supplemental sheet attached hereto.

Please direct all correspondence to: Customer or label _____ OR Fill in correspondence address below

Name CHARLES C. LOGAN II
Address 8282 UNIVERSITY AVENUE
Address
City LA MESA State CA ZIP 91941
Country USA Telephone 619-463-1675 Fax 619/463-1665

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: A petition has been filed for this unsigned inventor

Given Name	KEN	Middle Initial		Family Name	WILSON	Suffix e.g. Jr.	
Inventor's Signature						Date	10/28/98

Residence: City POWAY State CA Country USA Citizenship USA

Post Office Address 12925 BROOKPRINTER PLACE, #200

Post Office Address POWAY, CALIFORNIA 92064

City POWAY State CA Zip 92064 Country USA Applicant Authority

Additional inventors are being named on supplemental sheet(s) attached hereto

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DECLARATION

ADDITIONAL INVENTOR(S) Supplemental Sheet

Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor				
Given Name	CHRISTOPHER	Middle Initial		Family Name	TAYLOR			Suffix e.g. Jr.
Inventor's Signature	<i>Christopher Taylor</i>					Date	10-28-98	
Residence: City	CARDIFF	State	CA	Country	USA	Citizenship	USA	
Post Office Address	1371 RUBENSTEIN AVENUE							
Post Office Address	CARDIFF, CALIFORNIA 92007							
City	CARDIFF	State	CA	Zip	92007	Country	USA	Applicant Authority
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor				
Given Name		Middle Initial		Family Name				Suffix e.g. Jr.
Inventor's Signature						Date		
Residence: City		State		Country		Citizenship		
Post Office Address								
Post Office Address								
City		State		Zip		Country		Applicant Authority
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor				
Given Name		Middle Initial		Family Name				Suffix e.g. Jr.
Inventor's Signature						Date		
Residence: City		State		Country		Citizenship		
Post Office Address								
Post Office Address								
City		State		Zip		Country		Applicant Authority
<input type="checkbox"/> Additional inventors are being named on supplemental sheet(s) attached hereto								

**VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(c))—SMALL BUSINESS CONCERN**

Docket Number (Optional)

Applicant or Patentee: KEN WILSON et al

Application or Patent No.:

Filed or Issued:

Title: EXTRUDED METAL SPORTS BOARD

I hereby declare that I am

- the owner of the small business concern identified below.
 an official of the small business concern empowered to act on behalf of the concern identified below.

NAME OF SMALL BUSINESS CONCERN RENO WILSON, INC.

ADDRESS OF SMALL BUSINESS CONCERN 12925 BROOKPRINTER PLACE, SUITE 200
POWAY, CALIFORNIA 92064

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time, or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

- the specification filed herewith with title as listed above.
 the application identified above.
 the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

- Each person, concern, or organization having any rights in the invention is listed below:
 no such person, concern, or organization exists.
 each such person, concern, or organization is listed below.

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING KEN WILSON

TITLE OF PERSON IF OTHER THAN OWNER PRESIDENT

ADDRESS OF PERSON SIGNING 12925 BROOKPRINTER PLACE, SUITE 200, POWAY, CA 92064

SIGNATURE Ken Wilson

DATE 10/28/98